

# Atlanta Ham

ATLANTA HAMFEST AD...PAGE 7

APRIL 2002

## 2002 USA ARDF Championship Comes South



Georgia Orienteering Club (GAOC) has been selected to host the Second USA ARDF/Radio-Orienteering Championships, to take place April 19-21, 2002 at F. D. Roosevelt State Park near Pine Mountain, Georgia. The competition will get under way on Friday afternoon with a practice event, followed on Saturday by the main two-meter hunt and on Sunday by the 80-meter hunt.

In addition to the hunts, there will be a cookout on Friday evening, a spaghetti dinner on Saturday night, and an award ceremony following the 80-meter hunt, all included in the registration fee.

The USA ARDF/Radio-Orienteering Championships are open to anyone, from beginner to expert. Competitors will be placed in age/gender categories, with awards for first/second/third place in each category. Foreign visitors are welcome. Awards will be presented in two divisions, Overall and USA-Only.

*To volunteer contact ARC member Sam Smith, N4MAP, 770-463-2133 or [n4map@arrl.net](mailto:n4map@arrl.net)*

Pine Mountain is approximately 90 minutes southwest of Atlanta. Lodging options include cabins in the park and campgrounds with RV hookups. There are also many local motels and bed-and-breakfast inns.

Laurie Searle KG4FDM of GAOC is the Meet Director. Sam Smith N4MAP will set the ARDF courses. Robin Shannonhouse is Registrar.

Slovakia will host the next ARDF World Championships in fall 2002. Positions on Team USA for these championships will be determined by individual performances in the Pine Mountain events, as well as in last summer's USA Championships in Albuquerque.

Sam Smith, N4MAP  
[www.mindspring.com/~sam.smith/gaoc/Radio-O/Radio.htm](http://www.mindspring.com/~sam.smith/gaoc/Radio-O/Radio.htm)

### APRIL HAMFESTS...

**Statesboro ARS**  
ARRL Hamfest – Statesboro GA  
April 13, 2002  
[www.cs.gasou.edu/stars/](http://www.cs.gasou.edu/stars/)

**Cherokee Capital ARS**  
ARRL Hamfest – Calhoun GA  
April 27, 2002  
[www.qsl.net/k4woc](http://www.qsl.net/k4woc)

## What in the world is an EH Antenna?

*Submitted by: Russ, AE4NY (North GA QRP April 6, 2002 Meeting)*

NoGa QRP Club has a guest speaker for April 6th and wants to invite interested ARC members to attend. We meet at The Wieuca Baptist Church, on Peachtree just beyond Phipps Plaza, (10:00 AM) Ted Hart, W5QJR, developer of the EH Antenna is the speaker, and he would like for everyone to go to his web site and read his "book" on the EH Antenna before he talks with us.  
<http://eh-antenna.com>

What's an EH Antenna? The Hart EH Antenna consists of two (2) elements having a natural capacity between them. (Think of a fat dipole) When a voltage is

*(Continued on page 6)*

# THE ATLANTA HAM

**The Atlanta HAM** is the official bulletin of The Atlanta Radio Club serving its members and the Atlanta community. Original articles, art, and photos are welcome. Copyrighted material cannot be printed without permission from the appropriate legal authority. Please include such disclaimers in all materials submitted.

Submit articles:

Atlanta Radio Club  
Attn: HAM EDITOR  
PO BOX 720398  
Atlanta, Georgia 30358

Contact the editor for available formats to transfer material.

**DEADLINE FOR SUBMISSIONS IS THE 21ST OF EACH MONTH!**

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## THE ATLANTA RADIO CLUB, W4DOC

Originally known as the "Atlanta Wireless Club," the Atlanta Radio Club is one of the oldest and largest amateur radio clubs in the United States. With nearly 200 members, the Club sponsors numerous activities and services for its membership and for the Atlanta area amateur radio community.

The Club is best known for its sponsorship of the annual Atlanta HamFestival, a Saturday event which hosts many vendors, exhibitors, and flea marketers of amateur radio equipment and other electronic equipment, including computers



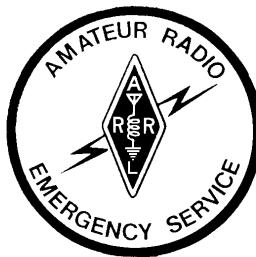
Bank of America Tower  
Site of Atlanta Repeaters:  
146.82(-), 224.34(-) and 444.825(+)

## W4DOC REPEATERS

The Atlanta Radio Club operates five repeaters at two locations. Currently our most active project is at the Bank of America Tower where we operate three repeaters at 146.82(-), 224.34 (-), and 444.825(+). On the web, go to <http://www.saf.com/arc/repeater.pdf> for a Acrobat 4.0 diagram of our system.

Our second location is the WFOX broadcast tower at Chestnut Mountain, south of Gainesville, GA. We operate two repeaters on 145.35(-) & 444.45 (+) . These repeaters are being renovated under the expert guidance of Dennis, KF4MHW, and should also be on the air before May 1, 2002. For pictures of that site, see <http://www.saf.com/arc/wfox.html>

## ASSOCIATE ORGANIZATIONS



## MEETING NOTICE

**WHEN:** Thursday April 4, 2002 730pm  
**WHERE:** The Red Cross – 1955 Monroe Drive  
**TALK IN:** 146.820 (-) PL 146.2  
**DINNER:** 615pm - The Picadilly Cafeteria located at Ansley Mall – 1544 Piedmont Rd

*The Atlanta Radio Club, Inc.  
P.O. BOX 720398  
Atlanta, Georgia, 30358*

**Penn McClatchey, K4PE**  
President  
404-355-1560  
pmm@saf.com

**Dennis Baggett, KF4MHW**  
Vice President  
770-387-9351  
kf4mhw@arrl.net

**Charles Golsen, N4TZM**  
Treasurer  
404-252-3303  
cgolsen@mailatlanta.com

**David Tomaschik, KF4MDV**  
Secretary  
770-395-0081  
kf4mdv@arrl.net

**John Talipsky Jr, KA4VQH**  
Activities Manager &  
Hamfest Chairman  
770-995-6446  
johnka4vqh@aol.com

**Andy Keels, KD4ABB**  
Repeater Manager  
770-394-9052  
andyk@hvbi.com

**Stan Halter, KE4VGZ**  
Membership  
770-971-0805  
ke4vgz@arrl.net

**John Talipsky Sr, KI4Y**  
Newsletter  
678-985-1316  
john@talipsky.com

*(Continued on page 8)*

## WELCOME NEW MEMBERS...

Mike Faulkner KE4AIA (Extra) Marietta  
Eric Herson WF8E (Extra) Atlanta

# March meeting follow-up...

## Linux program Links

Submitted by: Richard D. Young, N4IU

Hi all,

I enjoyed the 2 part Linux programs given by Robin Cutshaw N4OUT/new?, and Matt Caldwell KD4BKU. Robin gave us a "cheat" sheet of Linux commands, as a handout. Thanks Robin. Matt covered so many different subjects, it was tough trying to keep notes. Thanks Matt.

The programs I did scribbled down were:

- 1 Predict [www.qsl.net/kd2bd/predict.html](http://www.qsl.net/kd2bd/predict.html) the .gif image is so big, it takes a minute to load up the site
- 2 multimon [www.baycom.org/~tom/ham/linux/multimon.html](http://www.baycom.org/~tom/ham/linux/multimon.html)
- 3 linpsk <http://linpsk.sourceforge.net>
- 4 Qsstv <http://users.pandora.be/on1mh/>
- 5 SoundModem [www.baycom.org/~tom/ham/soundmodem/](http://www.baycom.org/~tom/ham/soundmodem/)
- 6 minicom [www.pp.clinet.fi/~walker/minicom.html](http://www.pp.clinet.fi/~walker/minicom.html)

I found them on-line at the above web addresses. Many have their Windows version also, so for those not up to the Linux challenge, many you can still use.

73's Dean, KR4IU

PS: for other software, see also [www.ac6v.com/software.htm#LIN](http://www.ac6v.com/software.htm#LIN)  
<http://delbert.matlock.com/linux-radio.htm>  
<http://radio.linux.org.au/>

More info on how to do it:

[www.baycom.org/~tom/ham/linux/hdcl.html](http://www.baycom.org/~tom/ham/linux/hdcl.html)

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## GARS TECHFEST 2002



KG4LSK demonstrates APRS



AF4FO & W4RU talk ARRL



WA4ZXV mans the grill

## METRO TESTING SESSIONS

Call ahead to verify session and be prepared with the appropriate forms and required papers. A small fee may be charged. Check with the VEC

First Sunday WCARS VEC  
2:00 PM (Except July and September)  
Johnson High School  
3305 Poplar Springs Road, Gainesville  
Terry Jones, W4TL (770)967-6364

Second Tuesday 7:00 PM  
Walton EMC Building  
3645 Lenora Church Road, Snellville  
Wayne Taylor, WD4CCA (770)498-7759

Second Saturday CA VEC 8:30 AM  
Stone Mountain Methodist Church  
5312 West Mountain Street, Stone Mountain  
Hal Martin, KI4RD (770)978-9160

Third Saturday CA VEC 9:00 AM  
Marietta First United Methodist Church  
Room 305  
56 Whitlock Avenue, Marietta  
Larry Huff, WA4CQZ (770)955-3171

Fourth Tuesday ARRL VEC 7:00 PM  
United Way Service Center  
6279 Fairburn Road, Douglasville  
Jessie Clower, KB4WFK (770)942-6466

Fourth Friday W5YI VEC 7:00 PM  
St. John Neumann Church  
801 Tom Smith Road, Lilburn  
Headphones provided  
Howie Gould, W9HG (770)921-8362



**Jim Wingate, WA2EIU**,  
reviews field reports at  
SATERN communications  
center during WTC relief

## Coming in the MAY HAM...

I was paging through my April 2002 QST and I saw a photo of ARC member Jim Wingate, WA2EIU, on page 29 in an article about the Amateur Radio response to September 11. After an email inquiry, Jim reported that he volunteered at the Salvation Army Team Emergency Radio Network (SATERN) communications center in Manhattan. Jim apologized to me for not being able to attend meetings recently. He was regular attendee until his wife started a new responsibility and travel schedule as an Alaskan wildlife advocate. Some of you remember that Jim gave us a program about their trip into Alaska by car in 1999. Jim says he'll do his best to attend our May program on

## ACTIVITIES CALENDAR FOR APRIL 2002

STARS – April 27, 12pm – 3pm SCITREK  
Contact Penn. K4PE

## REPEATER NEWS & UPDATES...

*Submitted by: Penn, K4PE*

There is yet another feature available on the IRLP system. We now have a random node dialer. If you can't make up your mind what node you want to access, don't have time to look up a node, or you simply want some excitement, you enter a special DTMF code that causes the IRLP to connect us to a random node. (not a reflector)

If you'll contact me via email I'll email revised IRLP instructions explaining this capability, along with a revised list of nodes. The revised list of nodes will also show you that you can contact Sweden, South Africa, Antarctica and New Zealand via IRLP.

The voter controller is not installed yet, but we're getting close. Maybe by the time you read this command "#11D" will work as described in the manual. I am also scheduled to install the Astron power supply March 22 to increase the power output back up to its coordinated maximum.

We are close to deployment on the FOX tower machines. Please give 145.35 and 444.45 a workout. Use them. A lot. We would obviously rather these repeaters break before we deploy them 1600' feet above the ground. If you are in North Fulton or Gwinnett you should be able to hit these two repeaters. Any comments about their performance will be appreciated.

**FOR MORE INFORMATION [WWW.SAF.COM/ARC](http://www.saf.com/arc)**

## EH Antenna...

(Continued from page 1)

applied to a capacitor an E field will be developed. Also, the current through the capacitor (called displacement current) will develop an H field at right angles to (encircle) the electric field. However, when current flows through a capacitor, the phase of the current leads the phase of the applied voltage. Therefore, the phase of the H field leads the phase of the E field and the difference in phase (time) prevents satisfaction of the Poynting Theorem for this configuration.

If the external power applied to the EH antenna is first applied to an inductor between the source and the antenna, the inductor will retard the phase of the current relative to the applied voltage. Therefore, within the antenna the phase of the voltage (E Field) and the phase of the current (which causes the H Field) can be made to be the same. In other words, they occur simultaneously, thus, the name of the EH Antenna. This allows



Picture represents an EH Antenna on 40 metres in a 3:1 ratio version (Total length is 1.2 metres)

satisfaction of the Poynting Theorem and radiation occurs at the frequency where the reactance of the external inductance causes the phase of the current thru the capacitor to be the same as the applied voltage. This is at a frequency approximately equal to

the resonant frequency of the external L and the internal C of the antenna. More complex phasing/matching networks and/or feedback techniques may be used to enhance bandwidth by maintaining the desired phase relationship over a range of frequencies. Greater amounts of radiation also result from more complex networks.

Due to the high efficiency of the integration of the E and H fields within the physical sphere of the antenna, where they are created simultaneously, the antenna need only be a very small fraction (less than 1%) of a wavelength. This is due to the very strong fields. The Poynting Theorem says  $\text{Radiation} = E \times H$ . Since the space between the capacitor plates is only a fraction of a meter, the E field, measured in volts/meter, is large even for small applied voltages. The H field, measured in amp turns/meter, is large but relatively low, since the H field is less than the E field by a ratio of 377, the impedance of free space.

The EH Antenna can be physically configured to allow antenna pattern gain in the E plane in two different ways. One enhancement method is similar to that of a microwave horn, even though the operating frequency is such that the physical size of the antenna is very small compared to the operating wavelength. This is most evident in the Bi-cone version of the EH Antenna, where radiation occurs between and in a very small area at the apex of the cones, and the remaining cone area enhances the gain by shaping the antenna radiation pattern. The other method is to have long cylinders relative to the diameter of the antenna for the dipole configuration.

Due to the necessity of the H field being a closed loop (circle), the bi-cone must be non-directional in the H plane. In fact, all basic EH Antennas are non-directional in the plane

## W4DOC News & Notes...

Congratulations to Chris Hutton, KF4YDF, on earning a full scholarship to North Georgia College in Dahlonega from the U.S. Army National Guard. Chris is a ham partly because of the ARC and our support of Renfroe Middle School. (When Chris was in middle school, the late Barbara Edwards, KC4PBB, was his elmer. She did good work for ham radio, and her premature death was a tragedy to us all.) Chris also runs his a ISP called RaptorNet Systems.

You can find out more at <http://www.rawx.net> Chris should also be proud of the website he created for the Atlanta Hamfest. Point your browser to <http://www.atlantahamfest.com>

And while we're into congratulating club members, last, but certainly not least, Mike Boatright, KO4WX, has accepted the position of Georgia Section Emergency Coordinator. In other words he's the head of ARES for the State of Georgia. Not only is this an honor that Mike deserves, but it is also a great responsibility. Thank Mike next time you catch him on 146.82, but more importantly, offer to help.

Do you have news to report or congratulations to send out? Let us know so we can publish it!

John Talipsky, KI4Y, Ham Editor  
[atlantaham@talipsky.net](mailto:atlantaham@talipsky.net)

(Continued on page 8)

**ATLANTA RADIO CLUB, INC P.O. Box 720398 Atlanta, GA 30358**

New[ ] Renewal[ ] Treasurer Use: Date Paid: Amount: Cash[ ] or Check#  
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Family Names (Included in membership) List Here:

**Type of Application [ ] Voting \$22 [ ] Student \$8 [ ] Family \$2/person(non-voting)**

NOTE: Any memberships paid for after Feb 28th fall under the halfway rule. Members joining during this period are only required to pay for half of a year.

[ ] Voting \$11 [ ] Student \$4 [ ] Family \$1/person (non-voting)

DUES PAID: ARC \$\_\_\_\_\_ + FAMILY \$\_\_\_\_\_ TOTAL \$\_\_\_\_\_

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# 74th Atlanta Hamfest

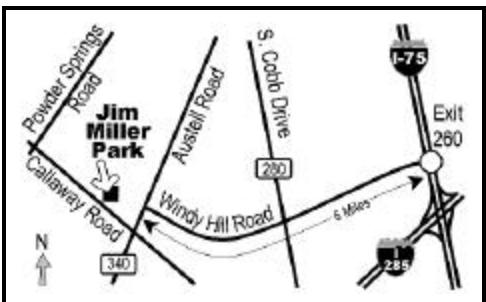


Gates Open:  
8:30AM – 3:30PM  
Admission: \$5  
(18 & Under Free)  
Talk-in: 146.820(-)  
PL 146.2

Sponsored by: The Atlanta Radio Club, W4DOC, & The American Radio Relay League

## SATURDAY JUNE 1, 2002

Jim R. Miller Park – Cobb Co. 2245 Callaway Rd. Marietta, Georgia



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### SCHOLARSHIP AVAILABLE...

*In the spirit of supporting Amateur Radio, The Atlanta Radio Club, W4DOC, is pleased to offer a scholarship to a deserving young Ham. See web site for more details and an application.*

**Visit our Web Site: [www.atlantahamfest.com](http://www.atlantahamfest.com)**

*For More Information, Contact:*

John Talipsky, KA4VQH (770) 995-6446 or Email: [johnka4vqh@aol.com](mailto:johnka4vqh@aol.com)

ATLANTA, GA 30358  
PO BOX 720398

ATLANTA RADIO CLUB, INC



## MEETING NOTICE APRIL 4, 2002

orthogonal to the E field. Directive gain in the H plane may be achieved with phased arrays made of active EH Antennas, or special shapes. Due to the E and H fields being primarily within the physical sphere of the antenna, Electro Magnetic Interference (EMI) is virtually eliminated. Since the E and H fields are contained, the EH Antenna can not be used as a parasitic element in an array.

Since the antenna is not a resonant structure, the frequency of operation is totally dependent on the external phasing network. Since the typical phasing network only covers a small range of frequencies, the EH Antenna virtually eliminates harmonic radiation.

Since antennas are reciprocal, the EH Antenna offers full performance for both transmitting and receiving. In addition, since the E and H fields are primarily contained within the physical sphere of the antenna, the antenna

rejects external E or H fields and receives only radiation. Thus, the EH Antenna is exceptionally quiet, thus producing very high signal to noise ratios in the presence of man made and atmospheric E field or H field noise.

This information was retrieved from the website of Ted Hart, W5QJR. For more information visit his website.

<http://eh-antenna.com>

NOGA hopes you will attend this meeting and take this opportunity to learn about this new antenna.

### Pres. Message cont...

Sandy Donahue, W4RU, Vice Director for the ARRL's Southeastern Division commented to me after our February meeting, "you have a lot of talent in the Atlanta Radio Club now." Looking over the last few paragraphs it is easy to see what he means.

73's Penn, K4PE